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**The K-Maximum Subarray algorithm as an alternative clustering analysis for the spatial weed aggregation pattern**

Weed invasions can alter the nature of the environment, the surrounding ecosystem and human activities, and it will cost us to manage and control them. This study introduces the K-Maximum Subarray Algorithm to investigate the spatial distribution patterns of hawthorn, grown over 100 years in Porters Pass. The K-Maximum subarray algorithm (K-MSA) investigates its maximum clustering patterns by identifying K-number of maximum growth patches. Further, the observed and simulated maximum weed growth patchiness were investigated for randomness of the aggregation pattern. Results demonstrated how the weed distribution pattern has changed over four decades, with samples in 1966, 1976, 1986 and 2008.

by Kyoko Fukuda, Jennifer Brown, Peter Williams, Rowan Buxton, Steve Ferris, and John Kean